

July 30, 2015

Ms. Mona Aglan-Swick, P.E. Traffic Engineering Group, Traffic Safety Section Arizona Department of Transportation 1615 W. Jackson St., MD 065R Phoenix, AZ 85007-3217

RE: Highway Safety Improvement Program (HSIP) Project Determination and Application

COG/MPO: MAG

Agency: City of Glendale

Procure Emergency Vehicle Preemption Equipment for Priority Signalized Intersections

Project Name:

Project Location: As a systemic project, the City chose to install EVP at priority Arterial-Arterial signalized

intersection locations and other signalized locations that are in close proximity to fire

stations that improve response times citywide.

Dear Ms. Aglan-Swick:

The City of Glendale is submitting herewith a project application for local Highway Safety Improvement Program (HSIP) funding. This road safety improvement project was identified through the state network crash data screening process and meets all requirements of Title 23. The proposed request is for procuring Emergency Vehicle Preemption (EVP) equipment at priority Arterial-Arterial signalized intersection locations and other signalized locations that are in close proximity to fire stations in Glendale, Arizona and does not include any non-infrastructure funding request. Implementation of Emergency Vehicle Preemption shall reduce response times and assist in quick clearance of incidents within the City of Glendale. The installation of procured equipment will be performed by in-house staff.

During the most recent five year period ending in 2013,fire department responded to 93 Fatal, 477 serious injury crashes that occured in the City of Glendale .19 intersection related crashes at signalized intersections involved Emergency vehicles, including two (2) non-incapacitating crashes and four (4) possible injury crashes. Various studies have shown the likelihood of a secondary crash increases by 2.8% for each minute the primary incident continues to be a hazard and supporting faster response time has a well-documented relationship to the increased likelihood of crash survival . Also, studies have proven that 25% reduction in response time and 70% reduction in crashes involving emergency vehicles with installation of EVP systems.

The City of Glendale has determined that, in accordance with 23 USC 148(a)(4))(A), this project is consistent with the MAG and State's 2014 SHSP. It supportsTraffic Incident Management emphasis area(s) and supporting strategy Develop and Implement Procedures that Achieve Safe and Quick Incident Clearance as stated in State SHSP. There is no documented dollar value associated B/C ratio with installation of EVP. But, documented evidence exists that prove reduction in response times. Also, EVP at the proposed locations would be a new installation and City of Glendale currently does not have any EVP at these locations.

The City of Glendale has estimated the total cost of this project to be \$770,822.16. In accordance with Title 23, the Federal share for safety improvement items are eligible to be funded at 100% Federal share per 23 U.S.C. 120(c) as described in Code of Federal Register 23 CFR Part 924. Therefore, the City of Glendale does not propose to contribute any local match for the above-mentioned project. Furthermore, the City of Glendale is not requesting reimbursement for staff time for installation. Table 1 summarizes the anticipated cost estimate projected for this project.

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The City of Glendale is aware that, if funded, additional HSIP funds above the attached estimated cost are not available to pay for excess costs and that other funds, whether STP, local or other will have to be provided or secured by the City of Glendale to cover the additional costs or the project will have to be withdrawn and resbumitted in the next call-for-projects.

The City of Glendale agrees to conduct and provide to ADOT TSS on a yearly basis a written before-and-after study utilizing the same crash data included in the countermeasure influence area in order to determine the effectiveness of the countermeasure on fatal and serious injury crashes.

The City of Glendale further understands that Federal funds can only be used once to install or upgrade either a spot or systemic countermeasure and that once installed, the City of Glendale will maintain the countermeasure at or above the standard to which it was installed.

If you have any questions, please contact me at 623-930-2940 or email DAlbert@GlendaleAZ.com.

Sincerely,

Debbie Albert P.E., P.T.O.E Interim Deputy Public Works Director

City of Glendale, Arizona

6210 W. Myrtle Avenue, Ste 112

Glendale, Arizona 85301

Attachments: Application (excel format) to include cost estimate, vicinity map and/or list of locations

Agency:	City of Glenda	ale	Title of Project:	Procure Emergency \ Equipment for Priori Intersections	11.5.			
County:	Maricopa		COG/MPO:		MAG			
District:	Phoenix Mainte	nance	HSIP Funds:	STATE V LC	OCAL			
	Contact:		Phone:	E-	Mail:			
Kiran G	iuntupalli	6	523-930-2951	kguntupalli@	oglendaleaz.com			
Type of Safety Imp	rovement:	Spot:	YES V NO	Systemic: YES	NO			
Mark all that apply	to your project:	PE	Const. Procure	ment Planning N	on-Infrastructure			
Anticipated Total C	ost Estimate:			\$770,822.16				
Anticipated dollar	amount of HSIP Fund	ing:		\$770,822.16				
Anticipated Dollar	amount of Local Mat	(5.66%):	\$0.00					
Anticipated Dollar	amount of Other:	\$0.00						
Funding Source:	✓ 100% HSIP 94	94.34% HSIP	Cost Estimate Tab:	6. Phased Cost Est.				
		Local	Initiated Proje	ects				
Anticipated Design	Year (Construction/p	rocurem	ent year cannot be t	the same):	FY16 FY17 (State)			
If additional ROW is	s needed, what FY is	purchase	anticipated?:	FY17 FY18				
Anticipated Constru	uction Year:	FY16*	FY17 FY18					
Administration of P	roject:	Agency:	YES V NO	ADOT: YES NO				
If competing for Sta	nte Funds, COG/MPO	agrees to	transfer TOTAL loca	al HSIP OA to State.	☐ YES			
Name and Title of C	COG/MPO Representa	ative:		Margaret Boone, P.E.				
		State	Initiated Proje	ects				
Anticipated Design	Year (Construction/p	rocurem	ent year cannot be t	he same):	FY17			
If additional ROW is	needed, what FY is	purchase	anticipated?:	FY17 FY18				
Anticipated Constru	uction Year:	FY17* 🗌	FY18 FY19	FY20				
	В	asic P	roject Informa	ation				
1. Have lower co	st countermeasures	been con	sidered or implemer	nted?	✓ YES NO			
1a. If "Yes", descr If "No", explai		City o	f Glendale periodica	Ily reviews signal pha	sing and timing at all			
2. Describe your	safety improvement	project i	n detail: (50 words o	STATE OF STA				

	Agency:	City of Glendale		Title of Project:	Procure Emergency Vehicle Preemption Equipment for Priority Signalized					
					Intersections					
	County:	Maricopa		COG/MPO:	MAG					
	District:	Phoenix Maintenance	е	HSIP Funds:	STATE V LOCAL					
2a.	existing condu green light on The most com	it with no ground disturbatheir approach to a signal	ance. lized of usi	EVP systems are desintersection while pring EVP include impro	Preemption(EVP) equipment that could use signed to give emergency response vehicles a oviding a red light to conflicting approaches. Eved response time there by reducing					
3.	Describe the lo	ocation of this safety pro	ject:							
3a.	As a systemic project, the City chose to install EVP at priority Arterial-Arterial signalized intersection locations and other signalized locations that are in close proximity to fire stations that improve response times citywide.									
4.	What crash da	ta screening method was	s use	d to identify this pro	ject?					
4a.										
5.	What is the sa	fety justification for the p	prop	osed project?						
5a.	likelihood of a hazard. Docum	secondary crash increases	s by 2	2.8% for each minute	imes by 25%. Documentation showing the the primary incident continues to be a ell-documented relationship to the increased					
6.	Will there be g	round disturbing activitie	es?		YES V NO					
7.	Is project with	i <mark>n applicants permanen</mark> t	ROW	<i>1</i> ?	✓ YES NO					
7a.	If NO please ex	cplain:								
8.	Will any tempo	oraty right-of-way acquisi	ition	s be required?	☐ YES ✓ NO					
9.	Will there be a	ny utility relocation need	ded?		TES V NO					
9a.	If YES please ex	kplain:	7.							
10.	Does Section 4	(<mark>f) apply to any portio</mark> n o	of this	s project?	☐ YES ✓ NO					

	Agency:	City of Glenda	ale	Title of Project:	Procure Emergency Equipment for Prior Intersections		otion	
	County:	Maricopa		COG/MPO:		MAG		
	District:	Phoenix Mainter	nance	HSIP Funds:	STATE	LOCAL		
10a.	If YES please e	explain:						
11.	Are there any this project?	other issues that ma	y impact	or delay developme	ent or construction o	YES YES	✓ NO	
11a.	If YES please e	explain:						
12.	Is this project	in compliance with re	evised Al	DA Standards?		✓ YES	□ NO	
12a.	If NO please e	xplain:						
13.	Does the proje	ect support Arizona's	Strategic	Highway Safety Pla	in?	✓ YES	□ NO	
14.	Are there any	Studies, RSA's or Oth	er evalua	ations that support	YES	✓ NO		
15.	HSIP Roadway	Functional Classifica	tion:	Urban Principal Arterial - Other				
16.	Average Daily	Traffic Volume and Y	ear Colle	ected:		2012		
17.	What is the so	urce of ADT?:			City of Glendale			
18.	What is the po	sted speed limit?		40 mph				
19.	Detailed engin	eer's cost estimate a	ttached:			✓ YES	□ NO	
			"Syste	emic" Safety I	Project			
20.	Completed B/G	C Ratio Tabulation Sh	eet Atta	ched (Required):		YES	✓ NO	
21.	Most current 3 severity (requi	3-5 Years Crash Data (red):	from AD(OT ALISS database so	orted by year &	✓ YES	□ NO	
22.	What are the i	nclusive dates of the	crash da	ta?	20	10-2014		
23.	If purchasing e	quipment or materia	ıls, who v	will install?	✓ Town/City Contractor	County Tribe		
24.	Does the proje	ct require proprietar	y Items (23CFR 635.411)?:		YES	✓ NO	
25.	Is a <mark>list of lo</mark> cat	tions for systemic pro	o <mark>jects pro</mark>	vided on the attach	ed form?	✓ YES	□ NO	
26.	How are (will)	the proposed locatio	ns be pri	oritized for replacer	nent? (explain below	v)		

	Agency:	City of Glenda	ale	Title of Project:	Procure Emergency \ Equipment for Priori Intersections	 ✓ 100 (100) ✓ 100 (ion	
	County:	Maricopa	***************************************	COG/MPO:		MAG		
	District:	Phoenix Mainter	nance	HSIP Funds:	STATE V LC	OCAL		
26a.								
27.		rting structures in go rvice life longer than				✓ YES	□ NO	
		"Spe	ot" Im	provement Pr	ojects Only			
28.	Completed B/	C Ratio Tabulation S	heet Atta	ched (required):		YES	□ NO	
29.	Most current 3 severity (requi	YES	□ NO					
30.	What are the i							
31.	Have any infrastructure changes occurred within the work limits of this project during the years the crash data covers?							
32.	If YES please e	xplain:						
33.	Project vicinity	/ map is provided:				YES	NO	
34.	Project work li	mits map is provided	d:		YES	□ NO		
			SHS	P - All Project	:s			
35.	Which SHSP Er does this proje	mphasis Area (EA) ect support?:		Traffic_Incident_Ma	anagement			
35a.	Which EA Strat support?:	tegy does it		ary Crashes) Develop k incident clearance.	and implement proce	dures that achie	ve safe	
35h	Does this proje second SHSP E	ect support a A? If so, which EA.:						
45C	Which EA Strat second EA?	tegy supports the						
35d I	Does this proje SHSP EA? If so	ect support a third , which EA.:						

	Agency:	City of Glenda	le	Title of Project:	Procure Emergency \ Equipment for Priori Intersections		tion	
	County:	Maricopa		COG/MPO:		MAG		
Ēķ.	District:	Phoenix Mainten	ance	HSIP Funds:	☐ STATE ✓ LO	OCAL		
35e.	Which EA Stra third EA?	tegy supports the						
36.	Does this proj	ect support one of th	e nine Fl	HWA proven counte	rmeasures?:	YES	✓ NO	
36a.	If so, which co	untermeasure?:						
37.	Does this proj	ect support one of th	e three A	Arizona Focus Areas	?:	✓ YES	NO	
37a.	If so, which fo	cus area?:	Intersec	tion				
38.	Which HSIP Im	provement Category	does th	is project support?:	Intersection_	_Traffic _Contro	ol	
38a.	Which HSIP Im	provement Sub-Cate	gory do	es this project suppo	rt?:		Alleria Alleria	
30a.		S	ystemic i	mprovements – signa	al-controlled			
39.	Does your CO	G/MPO have a Strate	gic Trans	sportation Safety Pla	n (STSP)?:	✓ YES	□ NO	
39a.	If "YES", does	/MPO STSP?:	✓ YES	□ NO				
39b.	List the EA:	Decre	ase respo	onse times and achie	eve quick clearance of	incidents		
40.	Are any tempo being installed		neasures needed prior to this permanent solution YES					
40a.	If yes, please e	xplain:						
		В/С	Ratio	and Weighte	d Score			
41.	The calculated	B/C Ratio is:	0.00	The Weighted Score	is:	0.00		
		Non-Inf	rastru	cture Project	or Element			
42.		data for this project the identification of			g driver/pedestrian/b	i <mark>cyclist behavio</mark>	rs	
42a.	Impaired Dr	iving (Alcohol or Dru	g)			YES	□ NO	
42a.	Occupant Pi	otection				YES	□ NO	
42a.	Pedestrian a	and Bicycle Safety				YES	□ NO	
42a.	Motorcycle	Safety				YES	□ NO	
42a.	Police Traffi	<mark>c Service</mark> s/Speed Cor	itrol			YES	□ NO	
42a.	Lack of accu	rate/complete crash	data			YES	□ NO	

	Agency:	City of Glendale	Title of Project:	Procure Emergency Vehicle Preemption Equipment for Priority Signalized Intersections						
	County:	Maricopa	COG/MPO:	MAG						
	District:	Phoenix Maintenance	HSIP Funds:	☐ STATE ✓ LOCAL						
42a.	Emergency	Medical Services		YES NO						
42b.	b. If "YES" to any of the above, has a grant proposal been submitted to any other agency/source for funding for the non-infractructure portion of this project?									
	If "NO", then	explain why other sources ha	ve not been explored	d.						
42b.										
42b.	If "YES", then	a copy of the proposal and di	sapproval must be s	ubmitted as an attachment.						
1116		ched from the agency departi agency is different from the		menting this NI YES NO						

HSIP: Local Match: Other Amt: Tio0.00% 0.00%	Agency:		Project:	Project: Local Agency Staff Installs	ency venicle rit	Local Agency Staff Installs Local Agency Staff Installs	וובוור וסו גנווסנור	Jigilalizeu IIII	ersections-
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Substitute		۵	roject Cost E	stimate Works	heet				
State Stat	Project Cost Estimate:	Description:	Quantity:	Cost (Unit):	Total Cost	HSIP:	Local Match:	Other Amt:	TOTAL COST
State Phase 1: Total Phase 1- Project Venic 1 5 30,000,00 5 30,000,00 5 5 5 5 5 5 5 5 5	Preliminary Engineering:				- \$. \$
Total Phase 1 - Project Year 1	ADOT Admin Costs - Phase 1:		1		1		. \$	· S	\$ 30,000,00
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Radio Units	Materials:	Emergency Vehicle Preemption Equipment	10			v	·		
Installation Cable	Materials:	Radio Units	10		1)	.	
Vehicle Equipment Software 17 \$3,500.00 \$59,500.00 \$15,750.0	Materials:	Installation Cable	3		1				
Contral Management Software 1 \$ 35,000.00 \$ 35,000.00 \$ 35,000.00 \$ 3,	Materials:	Vehicle Equipment	17						12
CMS Maintenance Agreement (3 1 5 15,750.00 5 15,777.80 5 15,7	Materials:	Central Management Software	1						
Sub-Total Material Cost - Phase 2 16,360.00 5 16,360	Materials:	laintenance Agreement(1		1	l	·		
Equipment and Installation Sub-Total Phase 2 - Year 2 516,036,00 5 16,036,00 5	Sub-Tota	al Material Cost - Phase 2				7	, ·		7
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Administration Sub-Total Phase 2 - Year 2 Administration Sub-Total Phase 2 - Year 2 Total Phase 2 - Project Year 2 Total Phase 2 - Project Year 2 Fmergency Vehicle Preemption Equipment Radio Units Sub-Total Material Cost - Phase 3 Lionow Administration Sub-Total Phase 3 - Year 3 Administration Sub-Total Phase 3 - Y	Contingencies :		2.00%		1	1	٠ ·		
Total Phase 2 - Year 2 February Cotal Phase 2 - Pear 2 February Cotal Phase 2 - Project Year 3 February Cotal Phase 3 - Project Year 3 February Feb	Post Design:		1 00%				7 4	·	1
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Radio Units	Materials:	Emergency Vehicle Preemption Equipment	38		\$ 115,938.00	\$ 115,938.00	- \$		\$ 115,938.00
Vehicle Equipment 40 \$ 3,500.00 \$ 140,000.00 \$ 140,000.00 \$ -		Radio Units	38	200	\$ 101,840.00	\$ 101,840.00			
Sub-Total Material Cost - Phase 3 Fequipment and Installation Sub-Total Phase 3 - Year 3 10.00% \$ 357,77.80 \$ 35,777.80 \$ 35,777.80 \$ 35,777.80 \$ 5.00% \$ 35,777.80 \$ 5.00% \$ 35,777.80 \$ 5.00% \$ 5.00% \$ 5.00% \$ 5.00% \$ 5.00% \$ 5.00% \$ 5.00% \$ 19,677.79 \$ 5.00% \$ 5.00% \$ 10,677.79 \$ 5.00% \$ 5.0		Vehicle Equipment	40		\$ 140,000.00	\$ 140,000.00			\$ 140,000.00
ton Admin : Equipment and Installation Sub-Total Phase 3 - Year 3 Incipation Admin : Administration Sub-Total Phase 3 - Year 3 Administration Sub-Total Phase 3 - Year 3 Incipation Administration Sub-Total					2000		- \$	- \$	\$ 357,778.00
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r3 \$ 487,266.96 \$ 487,266.96 \$ - \$ - \$	Admi	3 - Year						- \$	\$ 78,711.16
		Total Phase 3 - Project Year 3				\$ 487,266.96		- \$	\$ 487,266.96

ADOT Admin Costs-Year 4:			- \$,	ر د د	\$	- ·
Materials:		\$ 50.00	٠ \$	5	\$		
Materials:		\$ 6.00	- ×:			· •	. •
Sub-Total Material Cost - Phase 4			\$	· <	· · ·	, v) · ·
Sales Tax:	10.00%		. \$. \$	\$	· •	· ·
Equipment and Installation Sub-Total Phase 4 - Year 4	ear 4		- \$	\$. \$. 10	,
Construction Admin :	14.00%		\$	\$. \$		
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	1.00%		- \$	- \$			٠ \$
Administration Sub-Total Phase 2 - Year 2			- \$, \$	5	- \$	2
Total Phase 4 - Project Year 4			- \$	- \$	\$. \$	\$
Total Request			\$ 770,822.16	\$ 770,822.16	\$	S	\$ 770,822.1

Crashes Involving Emergency Vehicles at Signalized Intersections (2010-2013)

Г	_	_	_	т-	T	_	_	_	Т	_	_	_	_	_	_	_	_
Crossing Feature	O7 THUNDERBIRD BD	VE.		07 GLENDALE AVE		07 OLIVE AVE	07 60TH AVE	07 67TH AVE	07 HAYWARD AVE	07 51ST AVE	07 51ST AVE	07 OLIVE AVE	07 PEORIA AVE	07 67TH AVE	07 KEIM DR	07 59TH AVE	07 45TH AVE
InjurySeverity Onroad Crossing	H AVE	1 07 PEORIA AVE	1 07 BELL RD	3 07 67TH AVE	2 GLENDALE AVE	1 07 67TH AVE	1 07 MARYLAND AVE	1 07 BETHANY HOME RD	2 07 59TH AVE	2 07 PEORIA AVE	1 07 CAMELBACK RD	1 07 51ST AVE	1 07 51ST AVE	1 07 CAMELBACK RD	3 07 67TH AVE	1 07 OLIVE AVE	1 07 BETHANY HOME RD
Date Time	4/19/2013 20:11	12/29/2011 13:48	3/27/2010 12:47	1/14/2010 17:20	7/31/2013 12:09	6/30/2012 14:28	3/5/2012 13:45	12/9/2012 8:54	1/21/2011 14:13	3/12/2012 12:39	6/24/2011 14:00	6/20/2013 17:30	2/24/2013 14:34	2/20/2011 14:09	8/1/2011 3:57	11/5/2010 13:35	3/4/2011 21:14
IncidentID	2726502	2582625	2401328	2329111	2765178	2644273	2617290	2690781	2442952	2606449	2531595	2745278	2719091	2499694	2548385	2473213	2519296